Refrigerator service manual

Double door serial

MODEL :RD-38WC4SFY(BCD-295WYHCE)

Content

1.Safety precautions …… 3~3

2.Specification…….....4~4

3.Parts identification……...…….……5~5

4.Refrigeration system diagram…….…….…….……6~6

5.Circuit diagram……6~6

6.Maintenance service and Troubleshooting ……..……. 7~10

7.Quality information report…….……...…11~11

8.Exploded view and part list…….…....…12~15

1.Safety precautions

Please read the following instructions before servicing your refrigerator.

1)Check the refrigerator for current leakage.

2)To prevent electronic shock, unplug before servicing.

3)Always check line voltage and amperage.

4)If you use any kind of appliance, check regular current. voltage and capacity.

5)Don't touch metal products in the freezer with wet hands, this may cause frostbite.

6)Prevent water from following onto electric elements in the mechanical parts.

7)When tilting the refrigerator, especially the thin plates(ex. Glass shelf or books).

8)When servicing the evaporator, wear cotton gloves. This is to prevent injuries from the sharp evaporator fins.

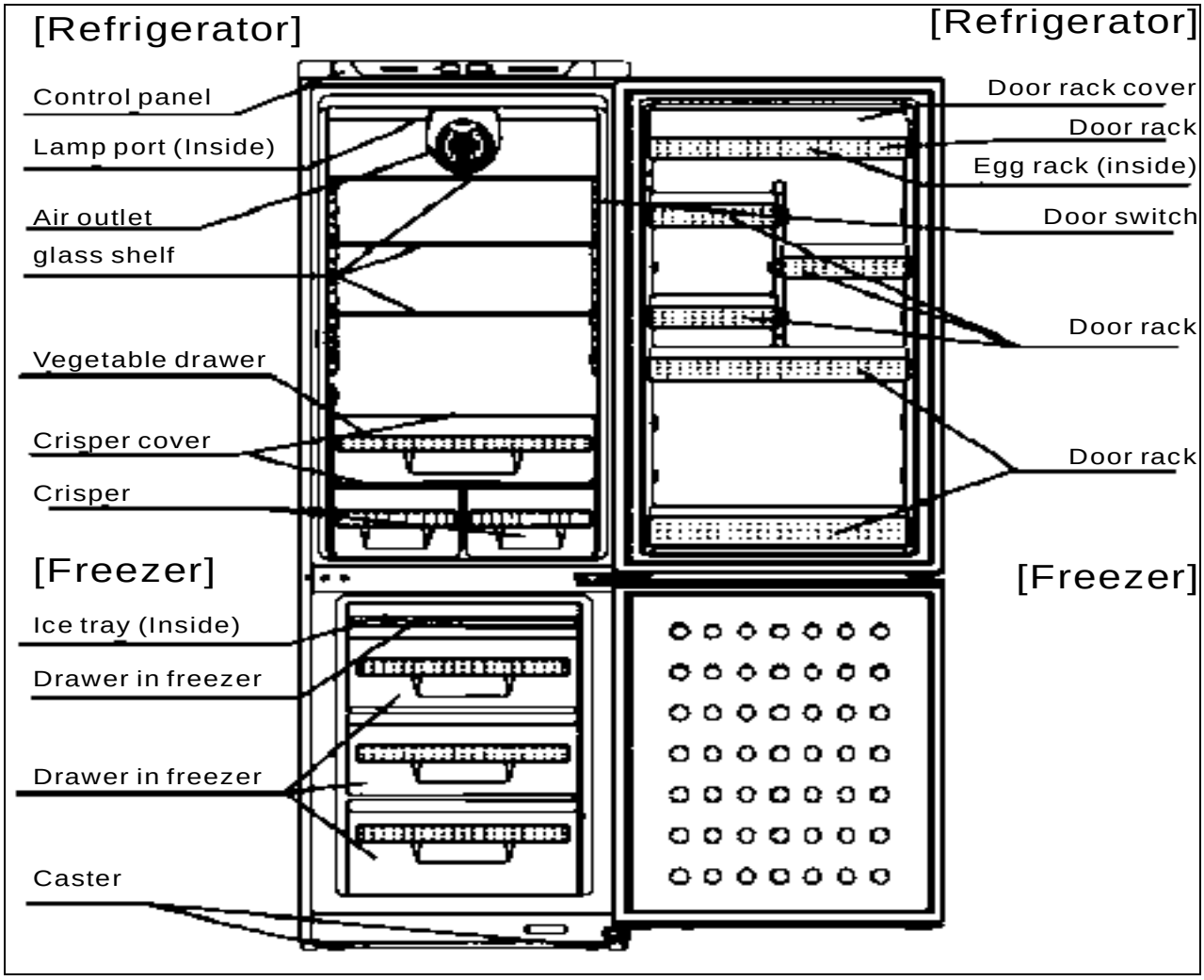
9)Leave the disassembly of the refrigerating cycle to a specialized service center. The gas inside the circuit may pollute the environment.

10)Close the top door before opening the bottom door, Otherwise, you might hit your might hit your head when you stand up.

2.Specification

Model No.		*RD-38WC4SFY(BCD-295WYHCE)*
Type		*Bottom-mounted no-frost refrigerator/freezer*
Capacity		
Net	*Total/ (L/Cu.Ft.)*	*295(10.4)*
	Freezer/ (L/Cu.Ft.)	*93(3.3)*
	Refrigerator/ (L/Cu.Ft.)	*202(7.1)*
Performance		
Climatic type	*(SN、N、ST、T)*	*N, ST, T*
Power	*V/Hz*	*220~240/50*
Features		
General Features	*Temp. control*	*electronic*
	Defrosting(Automatic/Manual)	*automatic*
	Reversible Door	*yes*
	Handle(Recessed/Grip)	*grip*
	Lock	*no*
	Refrigerant	*R600a*
	Foam Blowing Agent	*cyclopentane*
Refrigerator Compartment	*Shelf (Material/No.)*	*tempered glass / 3*
	Door Basket	*PS/5 (3big+ 2small)*
	Interior Lamp	*yes*
	Vegetable Crisper	*yes / 2 small*
	Vegetable Crisper Cover	*yes*
	Egg Tray	*yes*
	Can storage Dispenser	*no*
	Deodorizer	*optional*
Freezer Compartment	*Star Rating*	*4-star*
	Ice Maker (Automatic/Twist/Normal)	*normal*
	Shelf (Material/No.)	*no*
	Drawer	*PS/4 (3big+1small)*
	Door Basket	*no*
Dimensions		
Net	*Width/mm*	*595*
	Depth /mm	*664*
	Height/mm	*1834*
Packing	*Width/mm*	*648*
	Depth /mm	*713*
	Height/mm	*1914*
Weight	*Net/Packing/Kg*	*82/89*
LoadingCapacity	*20Ft/40Ft/40H.C.*	*27/54/72*
End of Table.		

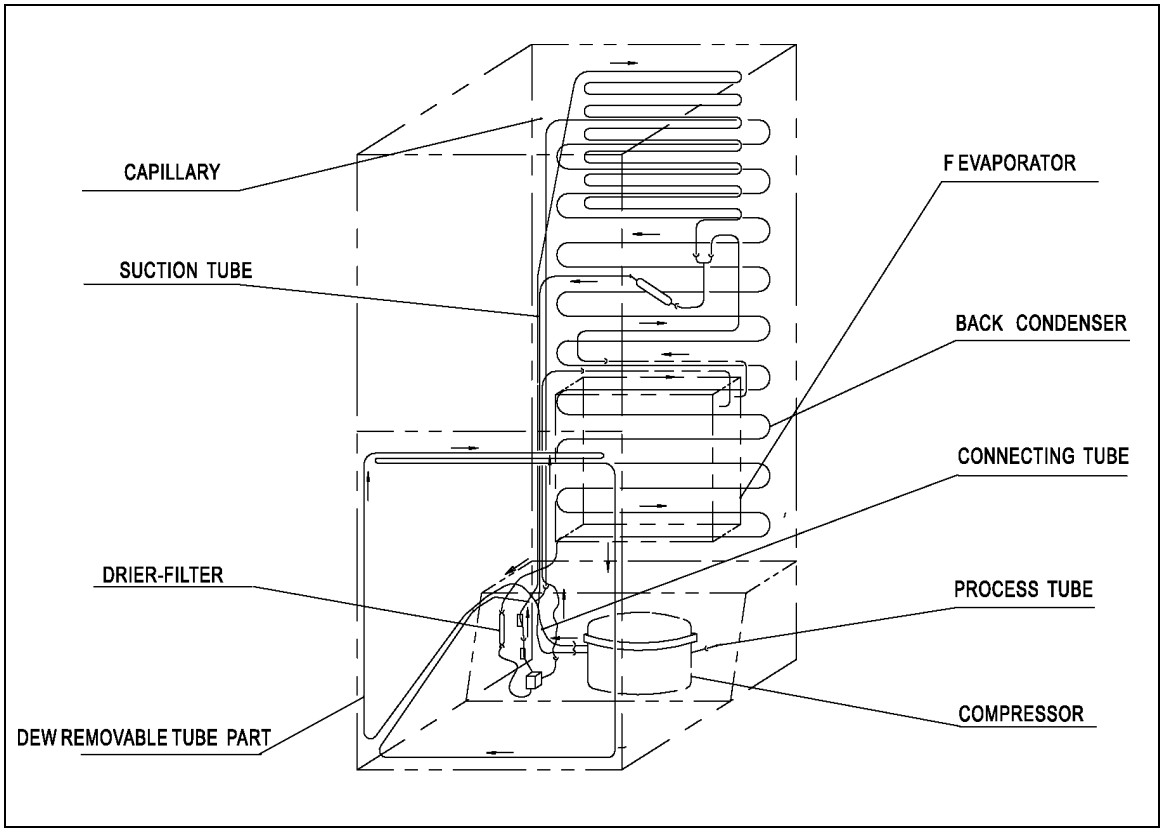
3.Parts identification



Note:

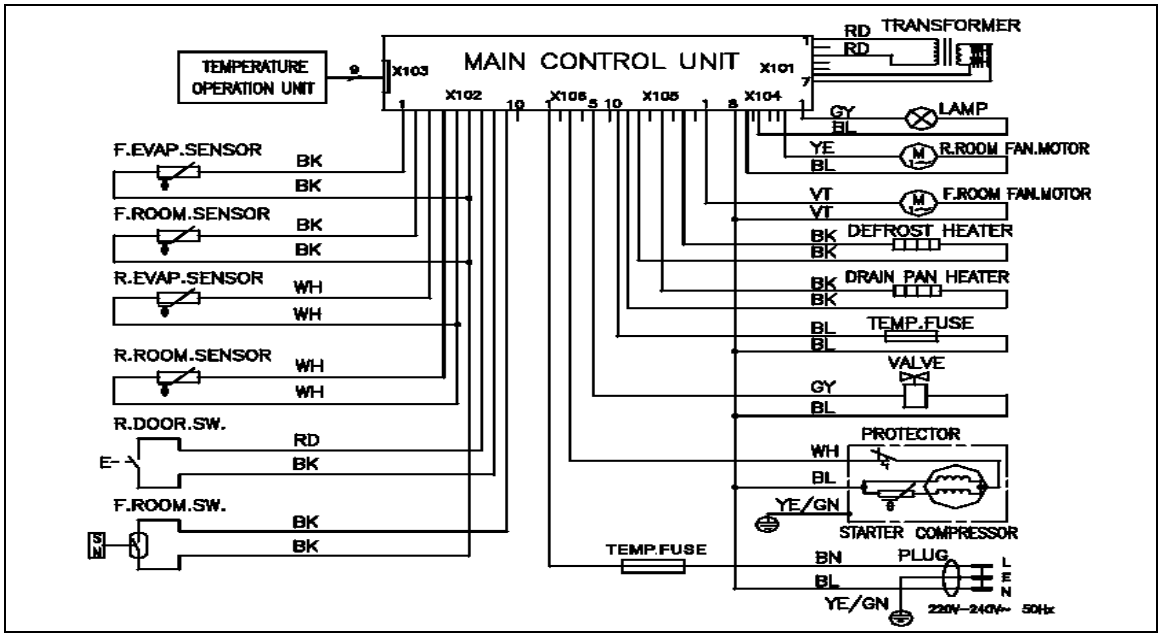
Due to the updated modifications of our products, your refrigerator may differ slightly from this Instruction Manual，but the functions and using methods remain the same。

4.Refrigeration system diagram



when the refrigerator is just powered on. The refrigerant flows in the sequence: Compressor →Condenser →Dry filter → Capillary tube → Evaporator .

5.Circuit diagram



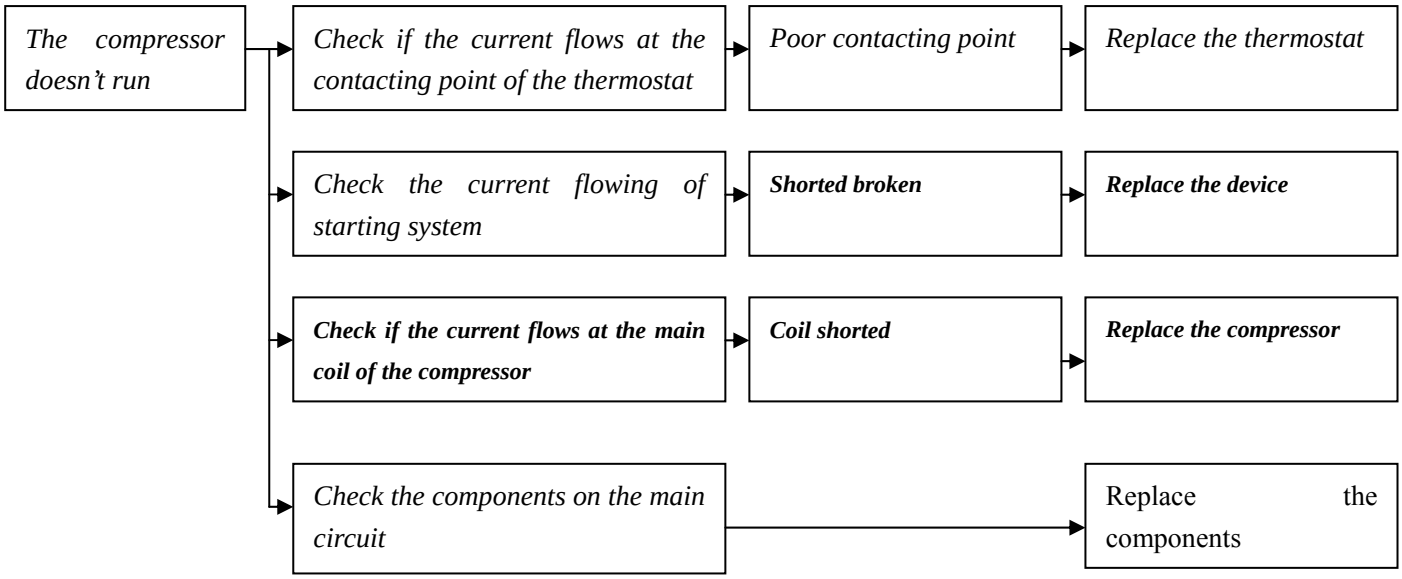
The electronic-controller directly controls the start and stop of compressor and hence the refrigerator temperature. The door switch directly controls the start and stop of the lamp.

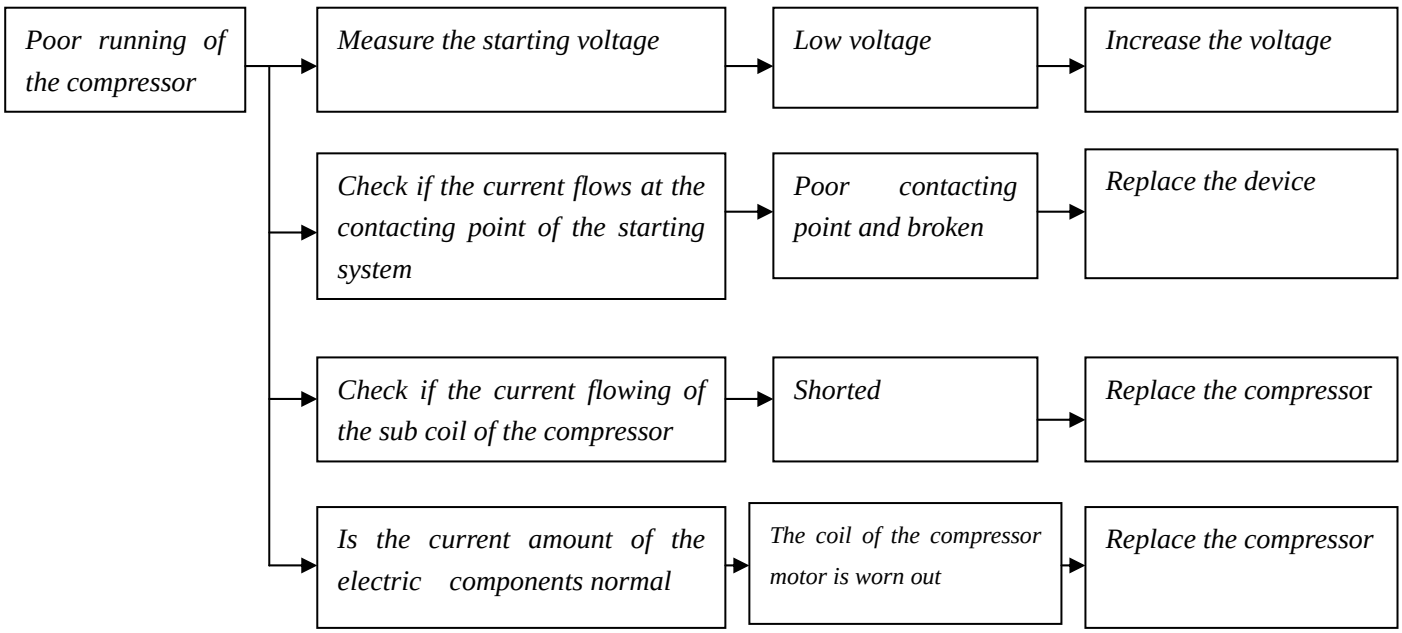
6.Maintenance service and Troubleshooting.

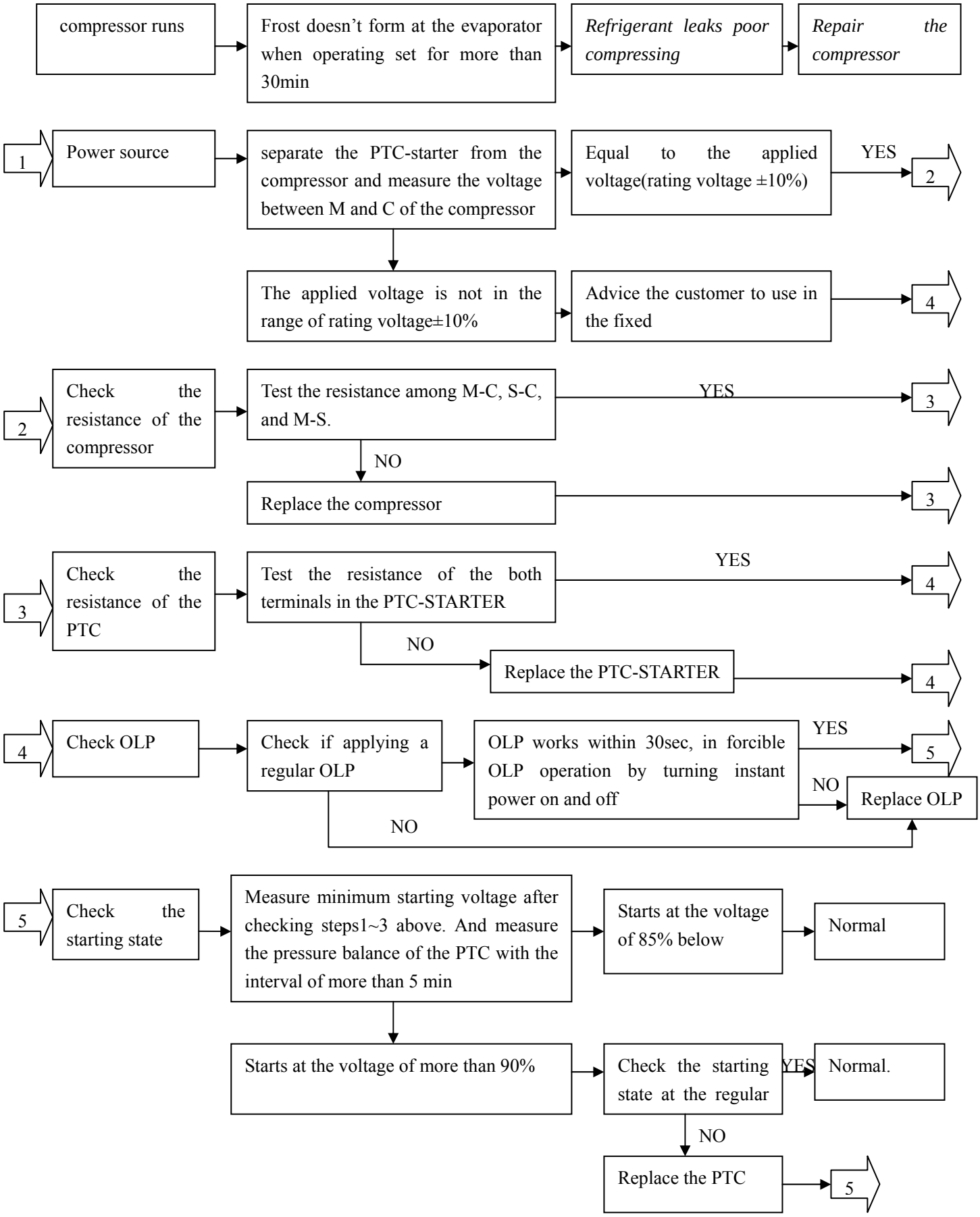
DEFECT	EFFECT	CAUSE	REMEDY
Group partially or completely out of refrigerant charge	Evaporator dose not frost even though motor-compressor runs continually.	An empty refrigerant system indicates a leakage of R600a.this loss is generally to be looked for at the soldering points connecting the various components or in an eventual hole in the evaporator made by the user.	Leakage must be eliminated by re-soldering the defective point or substituting the damaged evaporator.
Excessively full	This defect is indicated by the presence of water outside refrigerator near the motor caused by formations of ice on the return tube.	If in the refrigerant system a quantity of R600a is introduced which is greater than that indicated, the excess gas dose not terminate its expansion in the evaporator but proceeds into the return tube.	The system must be emptied and subsequently refilled introducing the correct quantity of R-600a.
Humidity in the system	This defect is indicated by the partial frosting of the evaporator and by continual defrosting cycles determined by the interruption of the flow of gas on the evaporator. the motor compressor keeps running.	The refrigerant system is humid when there is a small percentage of water present which not completely retained by the dehydrator filter, enters into circulation with the Freon and freezes at the capillary exit in the evaporator.	The system must be emptied and then refilled after eliminating the humidity.
Presence of air in the system	Poor performance of the refrigerant system which is indicated: on the evaporator with a slight frost which dose not freeze and an excessive overheating of the condenser and motor-compressor.	There is air in a refrigerating system when during the filling phase vacuum is not effected or it is not adequately done.	Group must be drained and subsequently refilled after carefully creating vacuum.
Blocked capillary	Because of the lack of circulation Freon in the system, there is no frosting of the evaporator, while a slight overheating of the first spiral of the condenser is noted.	Eventual impurities contained in the Freon or in the components of the refrigeration system before assembly and not retained by the filter can obstruct the capillary.	To restore the system it must be emptied, substitute the capillary or the evaporator entirely in case the capillary is coaxial with respect to the return tube, then refill it.
Motor compressor short-circuited or blocked	The system dose not work and the “clixson” intervenes interrupting delivery to the motor- compressor.	In case of short circuit the breakdown is due to the electric winding if blocked, there is a mechanical failure in the motor-compressor.	The motor-compressor must be replaced and then proceed with refilling.
Motor-compressor dose not	No frost forms on the evaporator even if the motor-compressor is apparently running regulary	In this case there is a mechanical failure in the diaphram valves which remaining continually open, do not	The motor-compressor must be replaced

compress		*permit the piston to suck and compressor the which consequentely dose not circulate in the system.*	*and then proceed with refilling.*
Noisy motor-compressor	*In case of mechanical failure in the motor-compressor there in an excessive noise when the system is functioning in case a suspension spring is unhooked banging will be heard and there will be especially strong vibrations when the system starts up and stops.*	*The cause of the excessive noise is normally to be sought for in a mechanical break down and only rarely in the unhooking of one of the suspension springs.*	*The motor-compressor must be substituted and then proceed。*

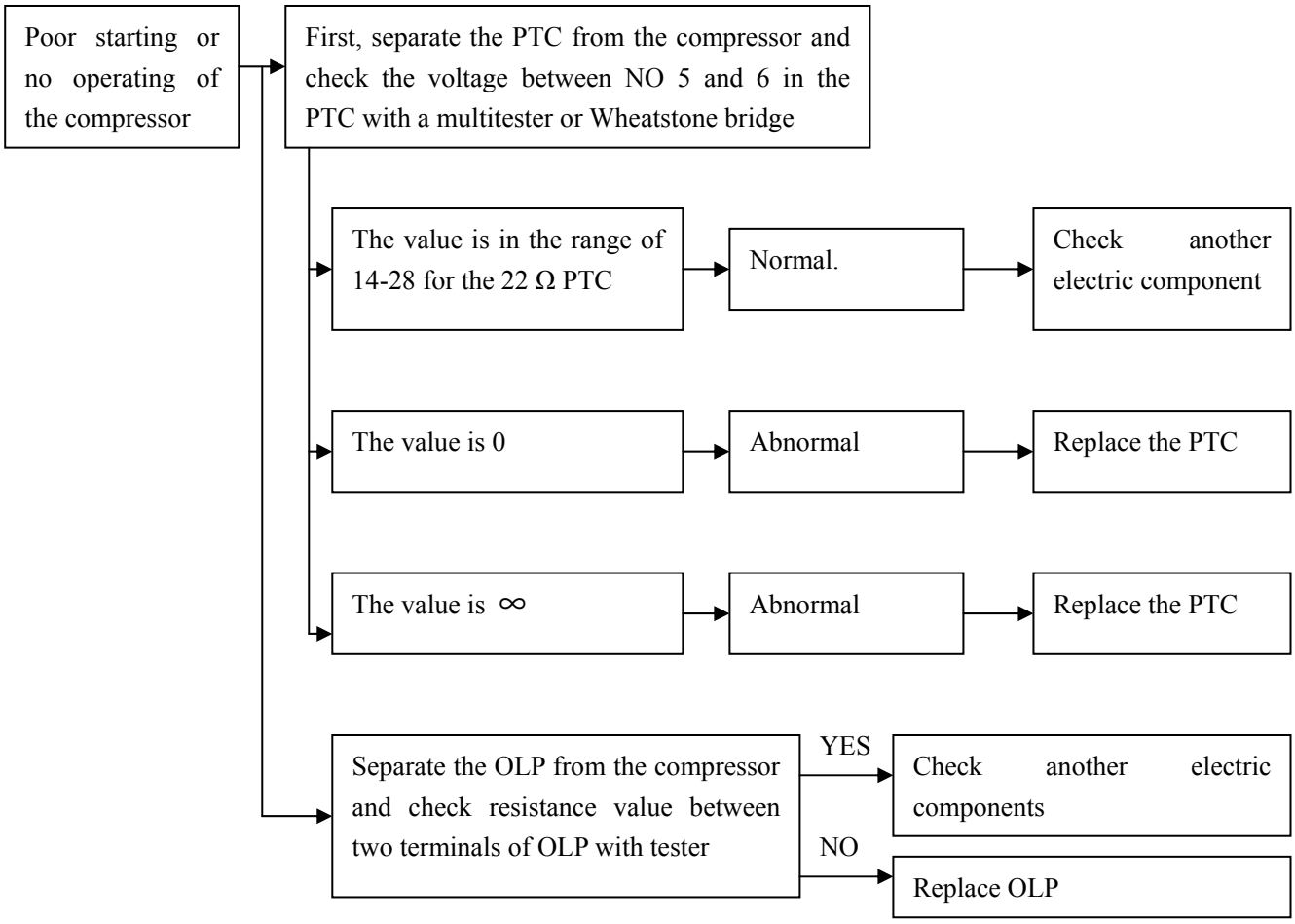
NO COOLING






compressor runs
Frost doesn't form at the evaporator when operating set for more than 30min
Refrigerant leaks poor compressing
Repair the compressor
1
Power source
separate the PTC-starter from the compressor and measure the voltage between M and C of the compressor
Equal to the applied voltage(rating voltage ±10%)
YES
2
The applied voltage is not in the range of rating voltage±10%
Advice the customer to use in the fixed
4
2
Check the resistance of the compressor
Test the resistance among M-C, S-C, and M-S.
YES
3
NO
Replace the compressor
3
3
Check the resistance of the PTC
Test the resistance of the both terminals in the PTC-STARTER
YES
4
NO
Replace the PTC-STARTER
4
4
Check OLP
Check if applying a regular OLP
OLP works within 30sec, in forcible OLP operation by turning instant power on and off
YES
5
NO
Replace OLP
NO
5
Check the starting state
Measure minimum starting voltage after checking steps1~3 above. And measure the pressure balance of the PTC with the interval of more than 5 min
Starts at the voltage of 85% below
Normal
Starts at the voltage of more than 90%
Check the starting state at the regular
YES
Normal.
NO
Replace the PTC
5

PTC


Poor starting or no operating of the compressor
First, separate the PTC from the compressor and check the voltage between NO 5 and 6 in the PTC with a multitester or Wheatstone bridge
The value is in the range of 14-28 for the 22 Ω PTC
Normal.
Check another electric component
The value is 0
Abnormal
Replace the PTC
The value is ∞
Abnormal
Replace the PTC
Separate the OLP from the compressor and check resistance value between two terminals of OLP with tester
YES
Check another electric components
NO
Replace OLP

7. Quality information report

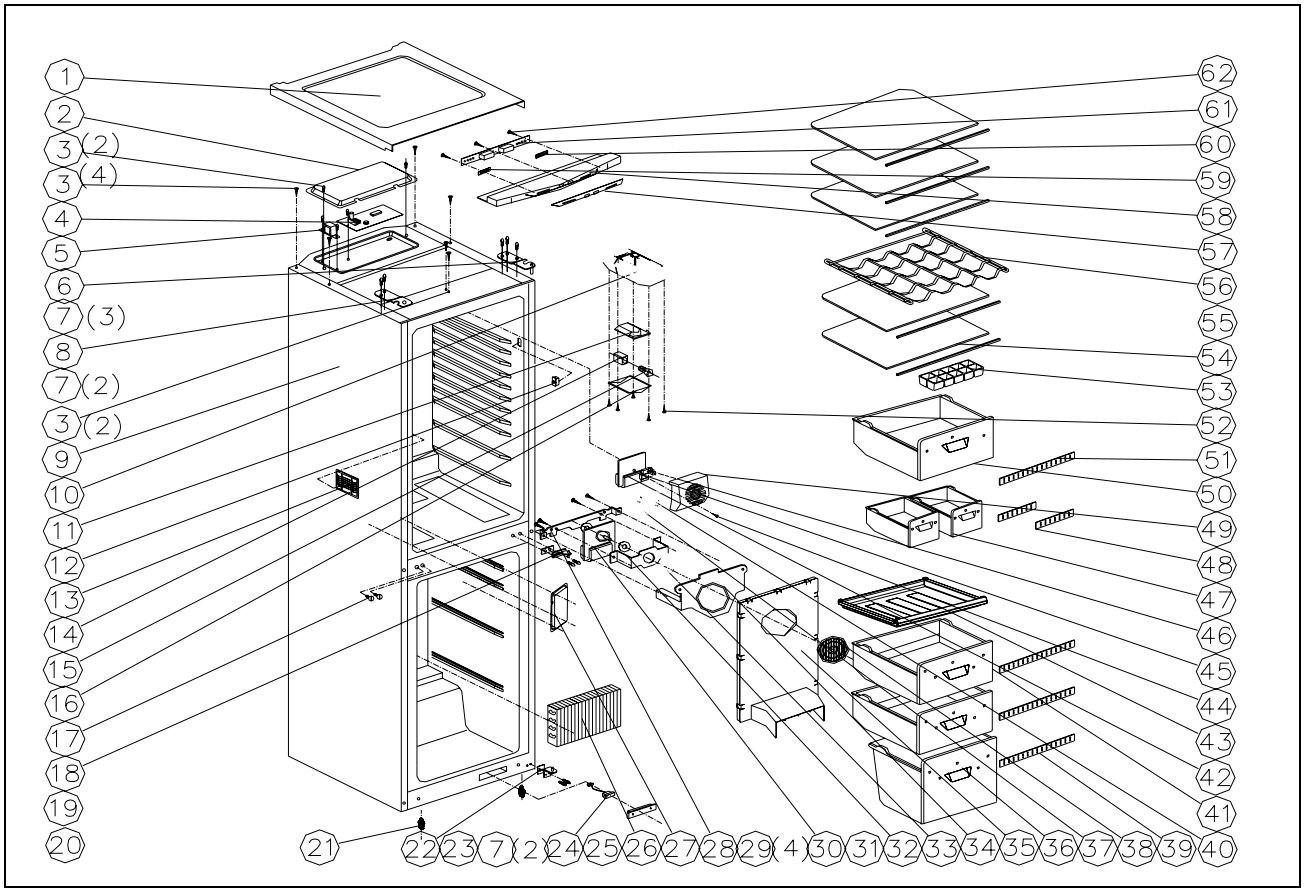
Quality information

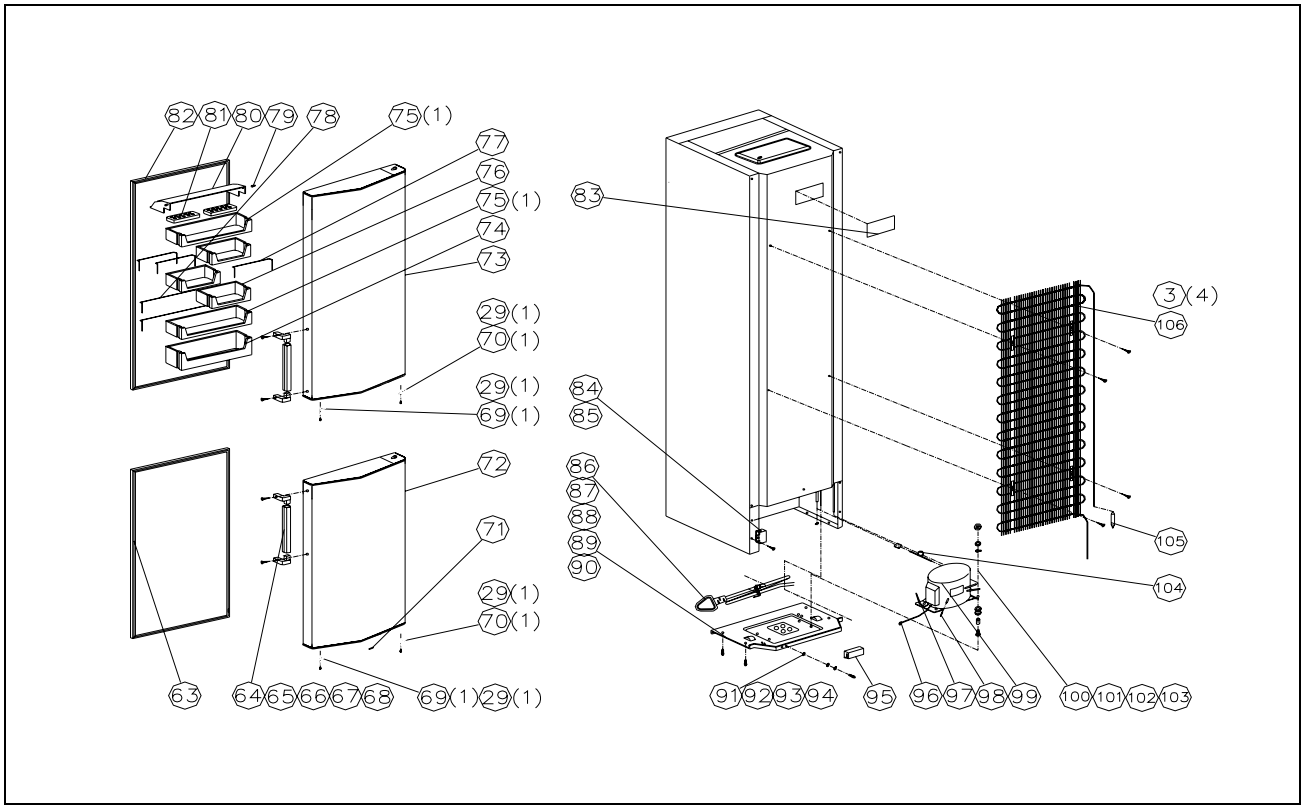
Thank you very much for purchasing Kelon products. In order to provide you with more satisfied products, please kindly fill in the questionnaire as the items indicated below. We shall strive for best to optimize our products based on your suggestion。

Client name					
Sale area					
Date					
No.	*Product model*	*Quality problem describe*	*Service result*	*Quantity /rate*	*Factory serial No.*
1					
2					
3					
4					
5					
6．Quality problem of whole sale product: detail descriptions					
client suggest：					
Factory activity：					

8.Exploded view and part list

8.1 Exploded view





8.2 part list

No	Part No	Part name	new price(USD)	Quantity	drawing No.
1	9101300647	Top cover	10.1	1	BCD325WY/HC(E).00-01
2	9210700235	Electron box cover	2.7	1	BCD325WY/HC(E).00-03
3	9170100316	Self-tapping screw	0.1	12	GB845-85
4	9140900157	Main board	13.5	1	BDG23-154
5	9140500101	Transformer	4.0	1	BDG14-21
6	9120400415	Upper hinge parts	1.4	1	BCD325WY/HC(E).00.10-00
7	1701183	FLANGE SCREW M5 x 16	0.1	7	BDG36-20
8	9120400416	Upper hinge	1.2	1	BCD325WY/HC(E).00.10-01
9	9100100701	Fridge body	125.6	1	BCD295WY/HC(E).08-00
10	140318	Lamp holder	2.3	1	TB00.20-01
11	110955	Reflect board	0.2	1	TB04-01(F)
12	1410106	Lamp switch	0.7	1	GN-0.5
13	210771	R sensor cover	0.2	1	BCD191W.00-14
14	141217	Lamp holder assembly	0.7	1	BDG17-08
15	14123	Lamp bulb(e14/25x17)	0.4	1	E14/25x17 240V 10W
16	210758	Lamp cover	0.8	1	TB00.14-02
17	2109230	Middle-hinge hole cover	0.1	2	BCD168W.00-12
18	1204311	Mid-hinge	1.8	1	BCD201/HC(E3).00-07
19	120440	Mid-hinge bottom plate	0.1	1	BCD210W.00-25
20	1701163	FLANGE SCREW M5 x 20	0.1	2	BDG36-14
21	11048	High front leg	0.2	2	BD88.00.06-00
22	1204318	Lower hinge parts	0.8	1	BCD207AK.00.01-00
23	1204317	Lower hinge bottom plate	0.1	1	BCD207AK.00-02
24	141038	Reed pipe	2.7	1	BDG16-15
25	210989	Reed pipe cover	0.2	1	BCD191W.00-13
26	9130100437	F evaporator	18.2	1	BCD325WY/HC(E).02-00
27	9210200298	Junctiong box cover	0.4	1	BCD280W/H(E).00-06
28	9110200314	Bracket a	0.6	1	BCD510W/H(E).00.06-01
29	170117	Self-tapping screw	0.1	8	GB845-85
30	9140200155	Anti-exploding fan motor	8.1	1	BDG13-42
31	9170400198	Vibration-reducing pad of motor	0.2	2	BCD325WY/HC(E).00.08-01
32	9110200315	Bracket b	0.4	1	BCD510W/H(E).00.06-02
33	9131000081	Fan leaf	0.4	1	BCD210W.04-16
34	9110200316	Bracket c	0.9	1	BCD510W/H(E).00.06-03
35	9101200270	Wind channel plate in freezer chamber	4.6	1	BCD325WY/HC(E).04-00
36	9210800267	Lower drawer	7.2	1	BCD325WY/HC(E).00.04-01
37	9110900421	Holding blank	0.1	1	BC245/HC(E).00.01-04
38	9210700236	Fan cover	0.4	1	BCD325WY/HC(E).04-02

39	9180100150	Adorn strip	0.5	3	BCD325WY/HC(E).00.03-02
40	160451	Vibration-reducing pad of motor	0.1	2	BCD255W.00.04-02
41	9210800314	Middle drawer	7.8	2	BCD325WY/HC(E).00-05
42	9210700214	Back cover of fan motor	1.0	1	BC245/HC(E).00.01-02
43	9210800263	Upper drawer	4.6	1	BCD325WY/HC(E).00-02
44	9170100227	Sew nail stm4×16	0.1	1	GB845-76 0Cr18Ni9
45	9140200143	Anti-exploding fan motor	4.3	1	BDG13-38
46	14023	Fan leaf	0.4	1	BCD210W.04-16
47	9210100166	Crisper drawer	6.9	2	BCD325WY/HC(E).00.05-01
48	9180100151	Adorn strip	0.6	2	BCD325WY/HC(E).00.05-02
49	9210700213	Front cover of fan motor	1.0	1	BC245/HC(E).00.01-01
50	9210100187	Crisper drawer	4.7	1	BCD325WY/HC(E).00.12-01
51	9180100188	Adorn strip	0.5	1	BCD325WY/HC(E).00.12-02
52	1701111	Sew nail stm4×25	0.1	4	GB845-76 0Cr18Ni9
53	21033	Ice tray	0.4	1	T00-01
54	9210501063	Glass board	3.0	5	BCD325WY/HC(E).00.02-02
55	9180100149	Adorn strip	0.8	5	BCD325WY/HC(E).00.02-03
56	9210501064	Wine bottle bracket	3.0	1	BCD325WY/HC(E).00.07-00
57	9180200185	Display decorative plate	3.4	1	BCD325WY/HC(E).00.01-02
58	9110200411	Top cover supporting	4.1	1	BCD325WY/HC(E).00.01-01
59	9140800278	Key-press a	1.5	1	BCD325WY/HC(E).00.01-03
60	9140800279	Key-press b	1.5	1	BCD325WY/HC(E).00.01-04
61	9140800280	Display electrical plate	4.7	1	BDG23-155
62	9170100146	Self-tapping screw m3x8	0.1	3	GB845-76
63	9160100322	Lower door gasket	2.4	1	BCD325WY/HC(E).06.01-00
64	9110200414	Upper handle parts	0.9	2	BCD325WY/HC(E).03.01.01-00
65	9110200415	Lower handle parts	0.9	2	BCD325WY/HC(E).03.01.02-00
66	9120400417	Back handle	3.1	2	BCD325WY/HC(E).03.01-01
67	9120400418	Front handle	3.5	2	BCD325WY/HC(E).03.01-02
68	1701171	SCREW M5 x 16	0.1	4	GB819-85 0Cr18Ni9
69	9120500087	Left door stopper	0.2	2	BCD248W/H(E).06-10
70	120514	Upper door stopper	0.2	2	T03-07
71	160626	Magnetic core	1.1	1	BCD255W.06-05
72	9100501396	Lower door	28.0	1	BCD325WY/HC(E).06-00
73	9100501397	Upper door	20.4	1	BCD295WY/HC(E).03-00
74	9210501071	Lower shelf for upper door	3.7	1	BCD325WY/HC(E).03-10
75	9210501067	Upper shelf for upper door	3.4	2	BCD325WY/HC(E).03-03
76	9210501070	Small shelf	2.3	2	BCD325WY/HC(E).03-05
77	9210501068	Protection rod a	0.5	2	BCD325WY/HC(E).03-04
78	9210501069	Protection rod b	0.7	2	BCD325WY/HC(E).03-07
79	9120400204	Bolt	0.1	1	BCD248W/H(E).06-03
80	9210500231	Sheet cover	3.1	1	BCD325WY/HC(E).03-02

81	210412	Eggs tray	0.6	2	BCD191W.03-01
82	9160100323	Upper door gasket	2.7	1	BCD295WY/HC(E).03.01-00
83	9190200898	Circuit diagram	0.2	1	BCD295WY/HC(E).00-01
84	914110008	Junctiong box	0.2	1	BCD210W.00-27
85	1701131	Self-tapping screw	0.1	1	T00-22
86	15011	Power supply cord with plug	2.5	1	TB00.02A-00
87	1701166	SCREW M5 x 14	0.1	2	GB818-85
88	17034	Screw nut m5	0.1	2	GB6170-86
89	9110800175	Compressor base	4.0	1	BC138/H(E).00.03-00
90	170261	Screw bolt m6x16	0.1	4	BDG36-03
91	170110	SCREW M5 x 12	0.1	2	GB818-85
92	17034	Screw nut m5	0.1	2	GB6170-86
93	170414	Round-pad 5	0.1	2	GB93-87
94	9170400106	Round-pad 5	0.1	2	GB95-85
95	9101300700	Ground wire cover	0.3	1	T00-77
96	1501182	Compressor grounding wire	0.3	1	BDG34-00
97	1501126	Compressor connecting wire	0.7	1	BDG35-00
98	13031	Process tube	1.0	1	T00-07
99		Compressor	58.8	1	
100	170355	Screw nut m6	0.1	4	GB6175-86
101	17042	Round-pad 6	0.1	4	GB93-87
102	17044	Round-pad 6	0.1	4	GB96-85
103	17023	SCREW BOLT M6 x 30	0.1	4	GB5783-86
104	1303325	Connecting tube	1.3	1	T00-21(A)
105	13068	Drier filter	1.5	1	BDG27-07
106	9130200557	Backside condensator	15.3	1	BCD325WY/HC(E).00.11-00